

Element Performance Inspection (EPI) Data Collection Tool

5.1.9 RVSM Authorization (OP)

ELEMENT SUMMARY INFORMATION

Purpose of This Element (Certificate Holder's responsibility):

- To ensure continuous altitude reliability in accordance with the Air Carrier's Reduced Vertical Separation Minimum (RVSM) Authorization.

Objective (FAA oversight responsibility):

- To determine if the Certificate Holder follows its procedures, controls, process measurements and interfaces for the RVSM Authorization process.
- To determine if there were any changes in the personnel identified by the Certificate Holder as having responsibility and/or authority for the RVSM Authorization process.

Specific Instructions:

- To accomplish this EPI, the inspector should become familiar with the Certificate Holder's RVSM policies and procedures. The inspector shall verify that dispatchers, flight followers and flight crews have been properly trained and qualified to conduct RVSM operations.

Related EPIs:

- 1.1.2 Appropriate Operational Equipment (OPS)
- 3.1.3 Airman Duties/Flight Deck Procedures (Ops)
- 3.1.4 Operational Control (Ops)
- 3.1.9 Aircraft Performance Operating Limits (Ops)
- 3.2.1 Dispatch or Flight Release (Ops)
- 3.2.3 MEL/CDL Procedures (Ops)
- 4.2.3 Training of Flight Crewmembers (Ops)
- 4.2.5 Training of Dispatchers (Ops)
- 4.2.9 Outsource Crewmember Training (Ops)
- 4.2.11 Training of Flight Followers (Ops)
- 4.3.2 Appropriate Airman/Crewmember Checks & Qualifications (Ops)
- 5.1.6 Use of Approved Routes, Areas, and Airports (Ops)
- 5.1.7 Special Navigation Areas of Operation (Ops)
- 5.1.8 Extended Range Operations with Two Engine Airplanes/ETOPS (Ops)
- 6.1.1 Scheduling / Reporting System (Ops)
- 7.2.1 Safety Program (Ground and Flight)(Ops)

Related EPI(s):

SUPPLEMENTAL INFORMATION

Specific Regulatory Requirement(s) (SRRs):

- SRRs:
 - 119.43(b)
 - 119.43(b)(1)
 - 119.43(b)(2)
 - 119.43(c)
 - 119.49(a)
 - 119.49(b)
 - 121.135(a)(1)
 - 121.135(b)(1)
 - 121.135(b)(2)
 - 121.135(b)(21)
 - 121.135(b)(24)
 - 121.135(b)(3)
 - 121.135(b)(5)
 - 121.135(b)(6)
 - 121.135(b)(7)
 - 91.706(a)(1)
 - 91.706(a)(2)
 - Appendix G Section 3(b)(2) to Part 91
 - Appendix G Section 3(b)(3) to Part 91
 - Appendix G Section 3(c)(2) to Part 91

Related CFR(s) & FAA Policy/Guidance:

- Related CFRs:
 - Intentionally left blank
- FAA Policy/Guidance:
 - Memo-91-RVSM

EPI SECTION 1 – PERFORMANCE OBSERVABLES

Objective: (FAA oversight responsibility): To determine if the Certificate Holder follows its procedures, controls, process measures and interfaces for the RVSM Authorization.

Tasks

To meet this objective, the inspector must accomplish the following tasks:

- 1 Review the information listed in the Supplemental Information section of this data collection tool.
- 2 Review the policies, procedures, instructions and information for the RVSM Authorization process contained in the Certificate Holders manual.
- 3 Review the associated SAI for this element with emphasis on the controls, process measurements and interface attribute sections.
- 4 Observe the RVSM Authorization process to gain an understanding of the procedures, instructions and information contained in the Certificate Holder's manual.
- 5 Discuss the RVSM Authorization process with the personnel (other than management) who perform the duties and responsibilities required by the process.

Questions

To meet this objective, the inspector must answer the following questions:

1. Were the following Performance Measures met:

- 1.1 Were the flight crew members qualified to operate in RVSM airspace?

☐ Yes

☐ No, Explain

Related performance JTIs:

- Check at the training center that flight crews receive training on the characteristics of aircraft altitude capture systems in accordance with the Certificate Holder's design.
Sources: 91–RVSM Appendix 4 Paragraph 7
- Check at the training center that flight crews receive training on operational procedures and characteristics of TCAS (ACAS), in RVSM environment, in accordance with the Certificate Holder's design.
Sources: 91–RVSM Appendix 4 Paragraph 7
- Check at the training center that flight crews receive training on the relationship between altimetry, automatic altitude control, and transponder systems in normal and abnormal situations in accordance with the Certificate Holder's design.
Sources: 91–RVSM Appendix 4 Paragraph 7
- Check at the training center that flight crews receive training on aircraft RVSM operating restrictions in accordance with the Certificate Holder's design.
Sources: 91–RVSM Appendix 4 Paragraph 7
- Check at air carrier specified location that the pilot records indicate that he is qualified for the route to be flown in accordance with the Certificate Holder's design.
Sources: 121.135(b)(21)
- Check at air carrier specified location that the pilot records indicate that he is qualified for the airport to be flown in accordance with the Certificate Holder's design.
Sources: 121.135(b)(21)

<ul style="list-style-type: none"> • Check at the air carrier specified location for training records indicating initial pilot RVSM training in accordance with the Certificate Holder's design. <i>Sources:</i> Appendix G Section 3(b)(2) to Part 91; 121.135(b)(1) • Check at the air carrier specified location for training records indicating recurrent pilot RVSM training in accordance with the Certificate Holder's design. <i>Sources:</i> Appendix G Section 3(b)(2) to Part 91; 121.135(b)(1) • Check at the air carrier specified location by interviewing the pilots that they have knowledge of RVSM requirements in accordance with the Certificate Holder's design. <i>Sources:</i> Appendix G Section 3(c)(2) to Part 91; 121.135(b)(1) • Check at the air carrier specified location by interviewing the pilots that they have knowledge of RVSM policies in accordance with the Certificate Holder's design. <i>Sources:</i> Appendix G Section 3(c)(2) to Part 91; 121.135(b)(1) • Check at the air carrier specified location by interviewing the pilots that they have knowledge of RVSM procedures in accordance with the Certificate Holder's design. <i>Sources:</i> Appendix G Section 3(c)(2) to Part 91; 121.135(b)(1) • Check at the training center that flight crews receive training on use and limitations of standby altimeters in accordance with the Certificate Holder's design. <i>Sources:</i> 91–RVSM Appendix 4 Paragraph 7 • Check at the training center that flight crews receive training on Visual perception of other aircraft (traffic) at 1000 ft (300 m) separation in accordance with the Certificate Holder's design. <i>Sources:</i> 91–RVSM Appendix 4 Paragraph 7 • Check at the training center that flight crews receive training on track offset procedures to mitigate the effect of wake turbulence in accordance with the Certificate Holder's design. <i>Sources:</i> 91–RVSM Appendix 4 Paragraph 7 	
<p>1.2 Were the aircraft qualified to operate in RVSM airspace?</p> <p><i>Related performance JTIs:</i></p> <ul style="list-style-type: none"> • Check at the aircraft cockpit by observing the flight crew checking the two primary altitude measurement systems operating normally prior to entry into RVSM airspace in accordance with the Certificate Holder's design. <i>Sources:</i> 91–RVSM Appendix 4 ; Paragraph 4 • Check at the aircraft cockpit by observing the flight crew checking one automatic altitude control system operating normally prior to entry into RVSM airspace in accordance with the Certificate Holder's design. <i>Sources:</i> 91–RVSM Appendix 4 Paragraph 4 • Check at the aircraft cockpit by observing the flight crew, that should any of the required equipment fail prior to entry into RVSM airspace, the crew must request a new clearance in accordance with the Certificate Holder's design. <i>Sources:</i> 91–RVSM Appendix 4 Paragraph 4 	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain

- Check at the aircraft cockpit by observing the flight crew prior to entry into RVSM airspace in accordance with the Certificate Holder's design.
Sources: 91–RVSM Appendix 4 Paragraph 4
- Check at the air carrier specified location for written authorization for aircraft operating in RVSM areas of operations in accordance with the Certificate Holder's design.
Sources: Appendix G Section 2(h) to Part 91; 121.135(b)(1)
- Check at the air carrier specified location that the pilots have reviewed the maintenance logs and forms to ascertain the condition of equipment required for flight in the RVSM airspace in accordance with the Certificate Holder's design.
Sources: 91–RVSM ; Appendix 4; Paragraph 3(a)
- Check at the air carrier specified location by observing the pilots review the maintenance logs and forms to ascertain the condition of equipment required for flight in the RVSM airspace in accordance with the Certificate Holder's design.
Sources: 91–RVSM Appendix 4 Paragraph 3(a)
- Check at the air carrier specified location by reviewing maintenance logs and forms to ascertain the condition of equipment required for RVSM flight in accordance with Certificate Holder's design.
Sources: 91–RVSM ; Appendix 4; Paragraph 3(a)
- Check at the air carrier specified location by observing pilots reviewing maintenance logs and forms to ascertain the condition of equipment required for RVSM flight in accordance with Certificate Holder's design.
Sources: 91–RVSM ; Appendix 4; Paragraph 3(a)
- Check at the aircraft by observing a qualified person conduct the external inspection paying particular attention to the condition of the static sources and the condition of the fuselage skin in the vicinity of each static source and any other component that affects altimetry system accuracy in accordance with the Certificate Holder's design.
(This check may be accomplished by a qualified and authorized person other than the pilot, e.g., a flight engineer or maintenance personnel).
Sources: 91–RVSM Appendix 4 Paragraph 3(b)
- Check at the aircraft cockpit by observing the flight crew before takeoff, setting the aircraft altimeters to the local altimeter (QNH) setting and should display a known elevation (e.g., field elevation) within the limits specified in aircraft operating manuals in accordance with the Certificate Holder's design. The difference between the known elevation and the elevation displayed on the altimeters should not exceed 75 ft. The two primary altimeters should also agree within limits specified by the aircraft operating manual. An alternative procedure using QFE may also be used.
Sources: 91–RVSM Appendix 4 Paragraph 3(c)
- Check at the aircraft cockpit by observing the flight crew checking required equipment for operation and indications of malfunctions should be resolved prior to take-off for flight in RVSM airspace in accordance with the Certificate Holder's design.
Sources: 91–RVSM Appendix 4 ; Paragraph 3(d)

<p>1.3 If an aircraft became unqualified for operation while enroute in RVSM airspace, were the Certificate Holder's procedures followed?</p> <p><i>Related performance JTIs:</i></p> <ul style="list-style-type: none"> • Check at the record repository that the crew adequately described discrepancies to effectively facilitate repair in accordance with the Certificate Holder's design. <i>Sources:</i> 91– RVSM Appendix 4 Paragraph 6 • Check at the aircraft cockpit that ATC is notified of any condition adversely affecting the ability of the aircraft to maintain CFL in accordance with the Certificate Holder's design. <i>Sources:</i> 91– RVSM Appendix 4 Paragraph 5 	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain <input type="checkbox"/> Not Applicable
<p>1.4 Were approved procedures followed for operating in RVSM airspace?</p> <p><i>Related performance JTIs:</i></p> <ul style="list-style-type: none"> • Check at the dispatch center by interviewing the appropriate personnel for their procedures for dispatch or release if any item of the equipment required for the particular type of operation becomes inoperative. <i>Sources:</i> 121.135(b)(5) • Check at the aircraft cockpit by interviewing the flight crew for their procedures for continuance of flight if any item of the equipment required for the particular type of operation becomes inoperative in accordance with the Certificate Holder's design. <i>Sources:</i> 121.135(b)(5) • Check at the carrier specified location by interviewing the appropriate personnel that they have not shown on the flight plan filed with air traffic control, an operator as approved for RVSM operations, or operate on a route or in an area where RVSM approval is required, unless the operator is authorized by the Administrator to perform such operations in accordance with the Certificate Holder's design. <i>Sources:</i> Appendix G Section 4(b)(1) to Part 91; 121.135(b)(1) • Check at the aircraft cockpit by observing the flight crew using the automatic altitude–control system during level cruise, except when circumstances require disengagement. In any event, adherence to cruise altitude should be done by reference to one of the two primary altimeters, in accordance with the Certificate Holder's design. <i>Sources:</i> 91–RVSM Appendix 4 Paragraph 5 • Check at the aircraft cockpit that an RVSM flight is flown in accordance with the Certificate Holder's design. <i>Sources:</i> Appendix G Section 3(b)(3) to Part 91; 121.135(b)(1) • Check at the aircraft cockpit that an RVSM flight procedures are followed accordance with the Certificate Holder's design. <i>Sources:</i> Appendix G Section 3(b)(3) to Part 91; 121.135(b)(1) • Check at the aircraft cockpit that RVSM procedures are followed in accordance with the Certificate Holder's design. <i>Sources:</i> 121.135(b)(1); Appendix G Section 3(c)(1) to Part 91 • Check at the air carrier specified location that each person requesting a clearance to operate within RVSM airspace correctly annotates the flight plan filed with air traffic control with the status of the operator with 	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain

regard to RVSM approval in accordance with the Certificate Holder's design.

Sources: Appendix G Section 4(a) to Part 91; 121.135(b)(1)

- Check at the air carrier specified location that each person requesting a clearance to operate within RVSM airspace correctly annotates the flight plan filed with air traffic control with the status of the aircraft with regard to RVSM approval in accordance with the Certificate Holder's design.

Sources: Appendix G Section 4(a) to Part 91; 121.135(b)(1)

- Check at the FAA location that the certificate holder submitted an appropriate request for a deviation for RVSM operations with the air traffic control center controlling the airspace, (request should be made at least 48 hours in advance of the operation unless prevented by exceptional circumstances.

Sources: Appendix G Section 5(a) to Part 91; 121.135(b)(1)

- Check at the air carrier specified location that by interviewing the flight crew and dispatchers or flight followers to determine that they have paid particular attention to conditions which may affect operators in RVSM Airspace in accordance with the Certificate Holder's design.

Sources: 91–RVSM Appendix 4 Paragraph 2

- Check at the aircraft cockpit by observing the flight crew level off at the assigned CFL and not overshooting or undershooting by more than 150 feet in accordance with the Certificate Holder's design.

Sources: 91–RVSM Appendix 4 Paragraph 5

- Check at the aircraft cockpit by observing the flight crew using an operational altitude–alerting system in accordance with Certificate Holder's design.

Sources: 91– RVSM Appendix 4 Paragraph 5

- Check at the aircraft cockpit by observing the flight crew hourly cross check the primary and the standby altimeters in accordance with the Certificate Holder's design. A minimum of two primary altimeters should agree within 200 ft (60 m) or a lesser value if specified in the aircraft operating manual. (Failure to meet this condition will require that the altimetry system be reported as defective and notified to ATC). The difference between the primary and stand–by altimeters should be noted for use in contingency situations.

Sources: 91– RVSM Appendix 4 Paragraph 5

- Check at the aircraft cockpit by observing the flight crew conduct an initial altimeter crosscheck in the vicinity of the point where Class II navigation is begun should be recorded in accordance with the Certificate Holder's design. The readings of the primary and standby altimeters should be recorded and available for use in contingency situations.

Sources: 91– RVSM Appendix 4 Paragraph 5

- Check at the aircraft cockpit by observing the flight crew return to CFL when notified by ATC of a AAD error in accordance with Certificate Holder's design.

Sources: 91– RVSM Appendix 4 Paragraph 5

- Check at the aircraft cockpit that the flight crew uses and understands

<p>standard ATC phraseology in their communications in accordance with the Certificate Holder's design.</p> <p><i>Sources:</i> 91–RVSM Appendix 4 Paragraph 7</p> <ul style="list-style-type: none"> • Check at the aircraft cockpit that the flight crew places special emphasis on cross checking each other to ensure that ATC clearances are promptly and correctly complied with in accordance with the Certificate Holder's design. <p><i>Sources:</i> 91–RVSM Appendix 4 Paragraph 7</p> <ul style="list-style-type: none"> • Check at the air carrier specified location that Doc 7030 is considered the source document for specific contingency procedures applicable to individual ICAO regions in accordance with the Certificate Holder's design. <p><i>Sources:</i> 91–RVSM Appendix 5 Paragraph 7</p> <ul style="list-style-type: none"> • Check at the air carrier specified location that they follow In–flight contingency procedures applicable to Pacific oceanic operations referenced in Paragraph 4.0 of the Regional Supplementary Procedures for the Pacific and the Middle East/Asia (Mid/Asia) in accordance with the Certificate Holder's design. <p><i>Sources:</i> 91–RVSM Appendix 5 Paragraph 7</p> <ul style="list-style-type: none"> • Check at the air carrier specified location that In–flight contingency procedures (applicable to NAT oceanic operations are published in Paragraph 5.0 of NAT Regional Supplementary Procedures) are in accordance with the Certificate Holder's design. <p><i>Sources:</i> 91–RVSM Appendix 5 Paragraph 7</p>	
<p>1.5 Were dispatchers or flight followers qualified to conduct flights in RVSM airspace?</p> <p><i>Related performance JTIs:</i></p> <ul style="list-style-type: none"> • Check at air carrier specified location that the dispatcher records indicate that he is qualified for the route to be flown in accordance with the Certificate Holder's design. <p><i>Sources:</i> 121.135(b)(21)</p> <ul style="list-style-type: none"> • Check at air carrier specified location that the dispatcher records indicate that he is qualified for the airport to be flown in accordance with the Certificate Holder's design. <p><i>Sources:</i> 121.135(b)(21)</p> <ul style="list-style-type: none"> • Check at the carrier specified location by interviewing the dispatcher or flight follower that they have verified RVSM applicability for the flight planned route through the appropriate flight planning information sources in accordance with Certificate Holder's design. <p><i>Sources:</i> Appendix G Section 4(a) to Part 91; 121.135(b)(1)</p> <ul style="list-style-type: none"> • Check at the air carrier specified location by interviewing the dispatchers or flight followers to determine that they are knowledgeable on contingency and other procedures unique to specific areas of operations in accordance with the Certificate Holder's design. <p><i>Sources:</i> 91–RVSM Paragraph 11 (b)(3)(i)</p>	<p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No, Explain</p>
<p>2 Were the Certificate Holder's policies, procedures, instructions and information, contained in its manual, for the RVSM Authorization process followed?</p>	<p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No, Explain</p>

3	Were the RVSM Authorization process controls followed?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
4	Did the records for the RVSM Authorization process comply with the instructions provided in the Certificate Holder's manual?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
5	Were the process measurements for the RVSM Authorization process effective in identifying problems or potential problems and providing corrective action for them?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain
6	Did personnel properly handle the associated interfaces by complying with other written policies, procedures, instructions and information that are related to this element?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain

<i>EPI SECTION 1 – PERFORMANCE OBSERVABLES –Drop Down Menu</i>
1. Personnel.
2. Tools and Equipment.
3. Technical Data.
4. Procedures, policies or instructions or information.
5. Materials.
6. Facilities.
7. Controls.
8. Process Measures.
9. Interfaces.
10. Desired Outcome.
11. Other.

EPI SECTION 2 – MANAGEMENT RESPONSIBILITY & AUTHORITY OBSERVABLES

Objective: To determine if the person identified by the Certificate Holder having responsibility and/or authority for the RVSM Authorization is qualified, knowledgeable, and recognizes that responsibility and/or authority. (The person with the authority may or may not be the person with the responsibility.)

Tasks

To meet this objective, the inspector must accomplish the following tasks:

- 1 Identify the person who has overall responsibility for the RVSM Authorization process.
- 2 Identify the person who has overall authority for the RVSM Authorization process.

NOTE: If no personnel or major program changes (as defined by the Principal Inspector) affecting the responsibility or authority attributes for this element have occurred since the last SAI and/or EPI was accomplished, then do not perform tasks 3 – 6 below. Answer questions 2.1 & 2.2 below, and provide the name/title.

- 3 Review the duties and responsibilities for the person(s) who manage the RVSM Authorization process documented in the Certificate Holder's manual.
- 4 Review the appropriate organizational chart.
- 5 Discuss the RVSM Authorization process with the management personnel identified in Tasks 1 and 2.
- 6 Evaluate the qualifications and work experience of the management personnel identified in Tasks 1 and 2.

Questions

To meet this objective, the inspector must answer the following questions:

2. Are the following aspects of the Management Responsibility and Authority Attributes addressed for the RVSM Authorization process:

2.1 Is there a clearly identified person who is responsible for the quality of the RVSM Authorization process?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain Name/Title: <input type="text"/>
2.2 Is there a clearly identified person who has authority to establish and modify the Certificate Holder's policies, procedures, instructions and information for the RVSM Authorization process?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain Name/Title: <input type="text"/>
2.3 Does the responsible person know that he/she has responsibility for the RVSM Authorization process?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain <input type="checkbox"/> Not Applicable
2.4 Does the person with authority know that he/she has authority for the RVSM Authorization process?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain <input type="checkbox"/> Not Applicable
2.5 Does the person with responsibility for the RVSM Authorization process meet the qualification standards?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain <input type="checkbox"/> Not Applicable
2.6 Does the person with authority to establish and modify the RVSM Authorization process meet the qualification standards?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain

	<input type="checkbox"/> Not Applicable
2.7 Does the person with responsibility understand the controls, process measurements, and interfaces associated with the RVSM Authorization process?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain <input type="checkbox"/> Not Applicable
2.8 Does the person with authority understand the controls, process measurements, and interfaces associated with the RVSM Authorization process?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain <input type="checkbox"/> Not Applicable
2.9 Does the responsible person know who has authority to establish and modify the RVSM Authorization process?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain <input type="checkbox"/> Not Applicable
2.10 Does the individual with authority know who has the responsibility for the RVSM Authorization process?	<input type="checkbox"/> Yes <input type="checkbox"/> No, Explain <input type="checkbox"/> Not Applicable

<i>EPI SECTION 2 – MANAGEMENT RESPONSIBILITY & AUTHORITY OBSERVABLES –Drop Down Menu</i>	
1. Assignment of responsibility.	
2. Assignment of authority.	
3. Does not understand procedures, policies or instructions and information.	
4. Does not understand controls.	
5. Does not understand process measurements.	
6. Does not understand interfaces.	
7. Span of control.	
8. Position vacant.	
9. Other.	